

**V.C. Summer Nuclear Station Units 2 & 3**

**Quarterly Report to the South Carolina Office of Regulatory Staff  
Submitted by South Carolina Electric & Gas Company  
Pursuant to Public Service Commission Order No. 2009-104(A)**

**Quarter Ending December 31, 2012**

**I. Introduction and Summary**

**A. Introduction**

This quarterly report is submitted by South Carolina Electric & Gas Company (SCE&G or the Company) to the Public Service Commission of South Carolina (the Commission) and the South Carolina Office of Regulatory Staff (ORS). It is submitted in satisfaction of the requirements of S.C. Code Ann. § 58-33-277 (Supp. 2012) and the terms of Commission Order No. 2009-104(A). This report provides updated information concerning the status of the construction of V.C. Summer Nuclear Station (VCSNS) Units 2 & 3 (the Units) and provides the current capital cost forecasts and construction schedules for the Units as of the close of the quarter. In Order No. 2012-884 dated November 15, 2012, the Commission approved updated construction schedules for the Units. This report provides a comparison of the current schedules and forecasts against those approved in Order No. 2012-884.

**B. Structure of Report and Appendices**

The current reporting period is the quarter ending December 31, 2012. The report is divided into the following sections:

- Section I: Introduction and Summary;
- Section II: Progress of Construction of the Units;
- Section III: Anticipated Construction Schedules;
- Section IV: Schedules of the Capital Costs Incurred Including Updates to the Information Required by S.C. Code Ann. § 58-33-270(B) (6) (the Inflation Indices);
- Section V: Updated Schedule of Anticipated Capital Costs; and
- Section VI: Conclusion.

**Appendices 1, 2, and 4** to this report contain detailed financial, milestone and other information updating the schedules approved by the Commission in Order No.

2012-884. For reference purposes, **Appendix 3** provides a copy of the capital cost schedule for the project as approved in Order No. 2012-884.

A confidential and a public version of this report and its attachments are being provided. Unless otherwise specified, all cost information reflects SCE&G's share of the project's cost in 2007 dollars. Attached to the end of the report is a glossary of acronyms and defined terms used in it.

### **C. Construction Schedule and Milestones**

As the report indicates, the Company has met all current construction milestones approved by the Commission in Order No. 2012-884, taking into account the contingencies authorized in Order No. 2009-104(A). There are 146 specific milestones for reporting purposes. As of December 31, 2012, 81 have been completed. Comparing the scheduled milestone completion dates as of the date of this report to the milestone completion dates approved by the Commission in Order No. 2012-884, the completion dates of 50 milestones have changed. Of these, 19 have been accelerated and 31 have been delayed for between one and 10 months.

### **D. Construction Costs and Cost Forecasts**

Spending through December 31, 2012, in current dollars is forecasted to be approximately \$150 million below the capital cost schedule approved in Order No. 2012-884. The present cash flow forecast indicates that the Company will be able to complete the Units for \$4.548 billion in 2007 dollars, which is the amount approved in Order No. 2012-884. The current cost estimates include no cost changes apart from changes in timing of costs and minor shifts in costs among cost categories that occur in the normal course of managing the project.

In Order No. 2009-104(A), the Commission recognized that forecasts of Allowance for Funds Used During Construction (AFUDC) expense and escalation would vary over the course of the project and required those forecasts to be updated with each quarterly report. The current escalation indices were issued in November of 2012 for the period of January through June of 2012 and have been used in forecasting the construction costs for the project that are presented here.

**Chart A** below compares the current capital cost forecast to the forecast presented in the last quarterly report. This chart shows a reduction in Gross Construction Costs of \$2.6 million over the life of the project. This reduction is due in part to the removal of Phase II Cyber Security estimates from our current forecast per Order No. 2012-884. With each quarterly update, a quarter that had been subject to the five-year escalation rate becomes subject to the one-year rate. The figures reported on **Chart A** also include the effect of calculating escalation on an updated cost flow projection for the project.

**Chart A: Reconciliation of Capital Cost (\$000)**

<u>Forecast Item</u>	<u>Projected @ 12/31/12 (Five-Year Average Escalation Rates)</u>	<u>Projected @ 9/30/12 (Five-Year Average Escalation Rates)</u>	<u>Change</u>
Gross Construction	\$5,697,773	\$5,700,406	(\$2,633)
Less: AFUDC	\$214,730	\$216,764	(\$2,034)
Total Project Cash Flow	\$5,483,043	\$5,483,642	(\$599)
Less: Escalation	\$934,638	\$930,287	\$4,351
<b>Capital Cost, 2007 Dollars</b>	<b>\$4,548,405</b>	<b>\$4,553,355</b>	<b>(\$4,950)</b>

**Chart B** compares the current forecast of gross construction costs, including current escalation, to the forecast on which the Commission relied in adopting Order No. 2012-884. Chart B shows that the forecasted capital cost of the Units in 2007 dollars has not changed. Due to the changes in forecasted escalation and AFUDC, see Section I. F, below, the cost of the plant in future dollars has decreased by approximately \$57 million since Order No. 2012-884 was issued.

**Chart B: Reconciliation of Capital Cost (\$000)**

<u>Forecast Item</u>	<u>Projected @ 12/31/12 (Five-Year Average Escalation Rates)</u>	<u>As Forecasted and Approved In Order 2012-884</u>	<u>Change</u>
Gross Construction	\$5,697,773	\$5,754,565	(\$56,792)
Less: AFUDC	\$214,730	\$237,715	(\$22,985)
Total Project Cash Flow	\$5,483,043	\$5,516,849	(\$33,806)
Less: Escalation	\$934,638	\$968,444	(\$33,806)
<b>Capital Cost, 2007 Dollars</b>	<b>\$4,548,405</b>	<b>\$4,548,405</b>	<b>\$0</b>

**Chart C** below shows the current forecasts of the cost of the Units compared to the cost forecasts underlying the initial Base Load Review Act (BLRA) order, which was issued by the Commission in 2009, and the update orders that the Commission issued subsequently. The decline in capital cost forecasts in 2007 dollars between Order No. 2010-12 and 2011-345 reflects the removal of Owner's contingency amounts from the forecasts as required by the opinion of the Supreme Court of South Carolina in *South Carolina Energy Users Comm. v. South Carolina Pub. Serv. Comm'n*, 388 S.C. 486, 697 S.E.2d 587 (2010). This chart shows that while the cost of the project in 2007 dollars has increased by \$13 million since the initial forecasts, the cost of the project in future dollars is approximately \$615 million below the initial forecast.

**Chart C: Summary of Nuclear Filings (billions of \$)**

<b><u>Forecast Item</u></b>	<b><u>Order No. 2009-104(A)</u></b>	<b><u>Order No. 2010-12</u></b>	<b><u>Order No. 2011-345</u></b>	<b><u>Order No. 2012-884</u></b>	<b><u>Projected @ 12/31/12</u></b>
Capital Cost, 2007 Dollars	\$4.535	\$4.535	\$4.270	\$4.548	\$4.548
Escalation	\$1.514	\$2.025	\$1.261	\$0.968	\$0.935
Total Project Cash Flow	\$6.049	\$6.560	\$5.531	\$5.517	\$5.483
AFUDC	\$0.264	\$0.316	\$0.256	\$0.238	\$0.215
<b>Gross Construction</b>	<b>\$6.313</b>	<b>\$6.875</b>	<b>\$5.787</b>	<b>\$5.755</b>	<b>\$5.698</b>

#### **E. Escalation Rates**

As provided in Order No. 2009-104(A), the most current one-year inflation indices are used to escalate costs occurring in the twelve-month period after the date of each quarterly report. The most current escalation indices are found in the Handy-Whitman July 2012 update which was issued in November 2012 and reports data for the period January through June of 2012. Those rates are reflected in this report. The approved capital cost targets have been adjusted to reflect the currently reported historical escalation rates. The forecasted costs provided here reflect the terms of the agreement related to the WEC/Shaw Claims which changes the index applicable to Firm with



Indexed Adjustment cost categories going forward from a floating Handy-Whitman adjustment to a fixed rate for the life of the project.

As shown on **Appendix 4**, utility construction cost escalation rates were at historically high levels during the period 2005-2008, and since then have dropped. Current escalation rates are shown below on **Chart D**. When compared to the previous Handy-Whitman release, the current update shows a downward trend in rates.

**Chart D: Handy-Whitman Escalation Rates**

<b><u>Escalation Rate Comparison</u></b>		
	<b>Jul-Dec 2011</b>	<b>Jan-Jun 2012</b>
<b><u>HW All Steam Index:</u></b>		
One-Year Rate	<b>4.51%</b>	<b>1.92%</b>
Five-Year Average	<b>3.91%</b>	<b>3.60%</b>
Ten-Year Average	<b>4.71%</b>	<b>4.67%</b>
<b><u>HW All Steam/Nuclear Index:</u></b>		
One-Year Rate	<b>4.52%</b>	<b>2.10%</b>
Five-Year Average	<b>3.87%</b>	<b>3.64%</b>
Ten-Year Average	<b>4.72%</b>	<b>4.70%</b>
<b><u>HW All Transmission Plant Index:</u></b>		
One-Year Rate	<b>2.48%</b>	<b>(0.17)%</b>
Five-Year Average	<b>3.00%</b>	<b>2.56%</b>
Ten-Year Average	<b>4.55%</b>	<b>4.71%</b>

#### **F. AFUDC**

The AFUDC for the project is currently projected to be approximately \$23 million lower than the forecast on which Order No. 2012-884 was based. Consistent with Order No. 2009-104(A), SCE&G computes AFUDC based on the Federal Energy Regulatory Commission (FERC) approved methodology as applied to the balance of Construction Work in Progress (CWIP) that is outstanding between rate adjustments. SCE&G's projected AFUDC rate is currently 5.28%, which is the same rate that applied when Order No. 2012-884 was issued.

## **G. Compliance with the Commission Approved Cumulative Project Cash Flow Target**

The current Cumulative Project Cash Flow target for the project was adopted by the Commission in Order No. 2012-884. In Order No. 2009-104(A), the Commission provided that the applicable Cumulative Project Cash Flow target would be adjusted with each quarterly report to reflect updated escalation data.

**Appendix 2** provides the Commission-approved Cumulative Project Cash Flow target updated for current escalation data. The cash flow targets through June of 2012 have been updated to reflect actual escalation rates. The cash flow targets for the third quarter of 2012 and beyond have been updated based on the most recently available inflation indices, which for purposes of this report, are the indices provided in November of 2012 that report data for the period January through June of 2012. When final actual indices for the remainder of 2012 become available, the cash flow data for 2012 will be revised to reflect the actual escalation rates.

**Appendix 2** compares the approved Cumulative Project Cash Flow target to the current cumulative cash flow schedules for the project, which include actual costs where available and SCE&G's working forecasts of annual cash flows for future years. In addition, the project cash flow targets presented on **Appendix 2** for 2012 have been adjusted to reflect timing differences between the billing methodology under the Engineering, Procurement and Construction Agreement (EPC Contract) and the calculation of the escalated cash flow targets under Order No. 2009-104(A). Under the EPC Contract, for periods where actual escalation rates are not available, WEC/Shaw bills SCE&G based on a rolling 2-year average of the applicable Handy-Whitman rate and provides adjustments to reflect the actual rate when it is known. An adjustment has been made to **Appendix 2** target calculations to offset the timing differences that arise as a result of WEC/Shaw's approach to estimated billings and credits. This adjustment applies to those EPC Contract cost categories that are subject to indexed escalation.

## **II. Progress of Construction of the Units**

The project continues to maintain an excellent safety record that exceeds industry expectations for projects of comparable size.

The switchyard for the Units was substantially completed during the fourth quarter of 2012 and was first energized for testing during the first quarter of 2013, subsequent to this reporting period. Cooling Tower 2A is approximately 30% complete and backfill for Cooling Tower 2B foundation is anticipated to be complete mid-February. Assembly work began on the Main Condenser for Unit 2 during this period, and was approximately 75% complete as of mid-January.

During the fourth quarter of 2012, SCE&G made substantial progress constructing the Unit 2 Turbine Building basemat. By January 2013, this work was substantially completed. In September, WEC/Shaw suspended the placing of reinforcing bar in the Unit 2 Nuclear Island (NI) foundation excavation. The purpose of this suspension was to allow certain construction code provisions to be added to the licensing basis for the Units through the License Amendment Request (LAR) process. Placement of this reinforcing bar in the Unit 2 foundation excavation can now proceed under Preliminary Amendment Requests (PARs) which have been issued based on the LARs. The LAR process is discussed more fully in Section II.A.2 below.

Assembly of Unit 2 Containment Vessel (CV) Ring 1 continues with assembly of course 4 which began in January 2013. CV Unit 2 Ring 2 assembly also has begun and Unit 3 Bottom Head on-site fabrication is in process. In October of 2012, the project received its last major environmental permit, which is the National Pollutant Discharge Elimination System (NPDES) permit for the Units' Wastewater System (WWS).

Overall, all completion dates support the on-site construction schedule. Manufacturing and testing of the Reactor Vessel for Unit 2 is complete. Shipment of the Reactor Vessel to the site has been delayed until the second quarter of 2013 to allow for resolution of issues related to the Vogtle Reactor Vessel's transportation by railcar from the port of entry to the site.

Progress on the structural sub-modules being fabricated at the Shaw Modular Solutions (SMS) facility has been delayed by the need to reconfigure modules to allow for full penetration welding as required by the licensing basis and to allow for design changes related to module stud spacing. The schedule for fabrication and delivery of sub-modules from the SMS facility in Lake Charles, Louisiana, remains a focus area for the project. SCE&G continues to monitor and oversee this area carefully and is devoting resources and attention to this area. This is discussed further in Section II.C.1.

Chicago Bridge & Iron (CB&I) announced it has concluded the purchase of the Shaw Group which it will operate as a business sector under the name CB&I Shaw.

At present all BLRA milestone completion dates are within approved schedule contingencies. The updated completion dates for all milestones are listed in Appendix 1.

A more detailed discussion of the status of the project is addressed in Sections II.A-II.G below.

## **A. Licensing and Permitting**

As licensee for the Units, SCE&G is directly accountable to the Nuclear Regulatory Commission (NRC) for its contractors meeting nuclear-safety related Quality Assurance/Quality Control (QA/QC) requirements both at the project site and at the facilities of its component manufacturers and equipment suppliers worldwide. The Consortium through the EPC Contract is also responsible to SCE&G for making sure that these requirements are met.

### **1. NRC Inspections**

The NRC completed the following inspections at the project site:

- A Monthly Civil Inspection on October 19, 2012. The NRC debriefed an Unresolved Item (URI) related to the Westinghouse method used to control open items prior to construction.
- A Quality Assurance Inspection on October 26, 2012. The NRC debriefed two URIs related to a drawing and weld inspection that have since been resolved.
- A Corrective Action Program Inspection on November 9, 2012. The NRC debriefed two potential Green (very low safety significance) violations. One was related to the development and processing of corrective actions. The second was related to procedure adherence requirements.
- On December 21, 2012, the NRC Re-Exited the URI related to concrete reinforcement in the basemat elevator pits and sump areas (identified in the third quarter during the September 2012 Monthly Civil Inspection) as a potential violation. The significance level of this potential violation remains under review by the NRC. This URI resulted in LARs 13-01 and 13-02 which are under review at the NRC. See Section II.A.2 below.

No other items of significance were debriefed during NRC inspection activities.

### **2. LARs**

The NRC approves changes from the approved licensing basis for nuclear units through the LAR request and review process. SCE&G envisions that filings

for LARs will be a normal part of the construction program for the Units going forward under the COL. Additionally, if needed, a licensee can submit a PAR associated with a LAR. The PAR process allows for up front review by the NRC staff for safety issues and, if there is no objection, work may proceed at the licensee's risk while the associated LAR is being processed.

During the fourth quarter of 2012, SCE&G filed two LARs with the NRC. SCE&G also filed five additional LARs after the close of the period, two of which (LARs 13-01 and 13-02) are discussed below. For ease of reference, a new appendix is being added to this report to tabulate all the LARs filed as of February 8, 2013; please see **Appendix 5**.

### **LAR 13-01: Shear Reinforcement Bar Spacing Design**

LAR 13-01 adds in the design basis of the Units special provisions based on the requirements of American Concrete Institute (ACI) Construction Code No. 349-01, a construction code applicable to reinforced concrete construction work in nuclear projects, regarding the shear reinforcement bar spacing design in the NI basemat for the Units.

### **LAR 13-02: T-Head Shear Reinforcement**

LAR 13-02 adds in the licensing basis provisions of ACI-318. The use of ACI-318 criteria for headed reinforcement results in longer shear ties and thicker concrete in the areas below the elevator pits and a sump in the NI basemat.

In late January of 2013, the NRC staff issued "No Objection" letters to PARs which SCE&G had filed regarding LARs 13-01 and 13-02, which had been filed on an expedited basis. The PARs allow WEC/Shaw to proceed with certain work regarding reinforcing bar assemblies in the Unit 2 NI foundation excavation, which was suspended in September 2012, while the NRC Staff continues to review these LARs. SCE&G has requested that a decision on the expedited LARs be made in the first quarter of 2013.

## **3. NRC Response to the Japanese Earthquake and Tsunami of March 2011**

In an industry-wide effort to address requirements associated with Fukushima related orders, the Nuclear Energy Institute (NEI) developed guidance for licensees to use in near-term and long-term planning for compliance which has been endorsed by the NRC. SCE&G used that NRC-endorsed guidance to develop strategies for compliance with license condition 2.D(13), which relates to restoring core cooling after a beyond design basis accident. In addition, SCE&G

has used that guidance to develop strategies for complying with Order EA-12-063, which requires SCE&G to address several characteristics of the Units' spent fuel pool instrumentation to assure that water levels are identifiable during a beyond design basis event.

As previously reported, on October 22, 2012, SCE&G issued its initial status report to the NRC in response to license condition 2.D(13). In this status report, SCE&G summarized those actions both taken and planned in an effort to comply with license condition 2.D(13). At this time, SCE&G is preparing an integrated response plan to submit to the NRC in compliance with license condition 2.D(13). The integrated plan will detail response actions for all three units at the VCSNS site in response to a beyond design basis external event as described in the final Interim Staff Guidance.

NRC Order EA-12-063 relates to spent fuel pool instrumentation issues raised by the Fukushima event. On October 29, 2012, SCE&G issued to the NRC its initial response to Order EA-12-063. SCE&G's technical report provides a complete response to the issues raised in Order EA-12-063. At this time, SCE&G is awaiting the NRC response to its request to close out Order EA-12-063 on the basis of that technical report.

Also as previously reported, by letter in June 2012, SCE&G responded to the NRC's April 2012 Request for Information (RFI) indicating that the evaluation of the emergency power supply for site communications equipment and the staffing necessary to execute the emergency plan in the event of a multi-unit event that resulted in an extended loss of all AC power would be completed later during the construction project. By letter dated January 3, 2013, subsequent to this reporting period, the NRC found SCE&G's response to its request for information acceptable based upon the present status of the construction program for the Units.

#### **4. Major Construction Permits**

##### **a) NPDES Permit**

On October 11, 2012, the South Carolina Department of Health and Environmental Control (SCDHEC) issued the NPDES permit for construction of the Raw Water System (RWS) intake structure, the WWS and other facilities associated with the water and wastewater systems. This permit also authorizes future discharges from the WWS and of blow down water from the Cooling Towers. One citizen filed appeal papers, but failed to submit the required fee to the Administrative Law Court by the deadline. Accordingly, the Administrative Law Court returned the appeal papers to the citizen.

**b) Other Major Construction-Related Permits**

No other major construction-related permits are outstanding. Other construction-related permits are anticipated to be obtained in the ordinary course of administering the project.

**5. BLRA Regulatory Proceedings**

In May of 2012, SCE&G filed a petition for updates to the capital cost schedules and construction schedules for the Units as approved under the BLRA. Those revisions reflected a) revised substantial completion dates for the Units and a resetting of certain BLRA milestones, b) the resolution of certain claims by Westinghouse/Shaw related to delay and redesign issues, c) revised Owners costs forecasts, d) revised Transmission costs forecasts, and e) other change orders associated with cyber security, health care costs and other matters. On November 15, 2012, the Commission issued Order No. 2012-884 finding that the revisions were prudent under S.C. Code Ann. § 58-33-270(E). The only exception was that the Commission determined that approval of the costs associated with Phase II of the change order addressing Cyber Security upgrades to the Units, in the amount of \$4.95 million, was premature since the precise scope of Phase II work will not be determined until the evaluation and work plan created in Phase I is completed. The Commission did not suggest that these costs could not be recovered and indicated that the Company may seek to include them within its approved capital costs schedules when they are more fully known.

Two intervenors filed petitions for re-hearing concerning Order No. 2012-884. The Commission denied those petitions by directive dated December 12, 2012. An order memorializing the directive has not yet been issued.

**B. Engineering**

**1. Engineering Completion Status**

As of December 31, 2012, the Units 2 & 3 Total Plant Design Completion Status is as follows:

- a) Site-specific design – 91.9% complete.
- b) Standard Plant Issued for Construction (IFC) Drawings – 73.5% complete.

## **2. Site Specific Design Activities**

Site specific design work is ongoing in support of site specific systems, to include the Circulating Water System (CWS), Yard Fire System (YFS), Potable Water System, RWS, Sanitary Drain System, Offsite Water System (OWS) and WWS.

As discussed in previous reports, the presence of bromides in the Broad River system resulted in redesign of the OWS using reverse osmosis to achieve SCDHEC potable water requirements. Discussions are ongoing to reach an agreement on the work scope and additional costs associated with this issue.

### **C. Procurement/Fabrication**

1. The delays related to fabrication and delivery of the sub-modules being built by SMS at its facility in Lake Charles, Louisiana, continue to be an important area of focus for the project. Through December 2012, 34 of the 72 required CA20 sub-modules have been delivered to the site.

As previously reported, the NRC completed an Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) inspection at SMS in May 2012. The inspection resulted in the NRC debriefing a URI for Design Control Document (DCD) provisions primarily related to module Nelson stud spacing. During the NRC's 2012 Third Quarter Exit process conducted on October 9, 2012, the NRC substituted for the previous URI a potential Green, NRC-identified violation. A "Green" finding is an NRC-identified finding of very low safety significance.

During the third quarter of 2012, WEC identified an issue related to a fillet weld process used during fabrication of several sub-modules. The NRC inspectors determined that the fillet weld process does not meet the full penetration weld configuration reflected in the current licensing basis drawings for these components. Plans are in process for the repair of previously fabricated CA20 sub-modules to conform to the full penetration configuration. These repairs will be performed on the project site. SMS will ensure compliance with the current licensing basis for all future module fabrication.

Senior management from both SCE&G and WEC/Shaw continue to actively provide oversight, and efforts continue to improve the fabrication and delivery process related to sub-modules. WEC personnel continue to provide on-site engineering support for production at SMS. As previously reported, SCE&G placed a permanent resident inspector at the SMS facility who continues to provide additional oversight, reporting and support.



2. The hydrostatic testing for the Unit 2 Core Make-Up Tanks was successfully completed in November 2012. The Unit 2 Core Make-Up Tanks are expected to be received on site during the second quarter of 2013. The Pressurizer, Accumulators, and Passive Residual Heat Removal (PRHR) Heat Exchanger are under active manufacture. Hydrostatic testing of the PRHR is on hold awaiting resolution of a design question that could impact final fabrication. The delay will allow the question to be resolved prior to hydrostatic testing.

3. Bend radius issues have been identified related to the Unit 2 Reactor Coolant Loop Piping hot and cold legs manufactured by Tioga. Those components are currently undergoing installation, fittings, and other welding activities at the Carolina Energy Solutions (CES) facility in Rock Hill. The bend radius issues relate to different measuring techniques used at the Tioga manufacturing facility. A path forward is being determined, and resolution of this issue is anticipated during the first half of 2013.

#### **D. Construction**

1. The Switchyard was substantially completed during the fourth quarter of 2012. The Switchyard was energized in January of 2013 for testing purposes prior to being turned over to SCE&G's transmission department for operation.

2. During the fourth quarter of 2012, installation of the horizontal waterproof membranes (the vapor barrier under each basemat) was completed for the Unit 2 Turbine Building basemat. Reinforcing bar assemblies were also completed and placed in the excavation for the Unit 2 Turbine Building foundation. The concrete for the basemat was then placed over those assemblies and the Unit 2 Turbine Building basemat is now substantially complete.

3. As discussed at Section II.A.1, during its September 2012 Monthly Civil Inspection, NRC inspectors raised questions concerning shear reinforcement spacing for the reinforcing bar assemblies that would form part of the basemat in areas comprising the Unit 2 NI elevator pits and a sump. As a result of these questions, placement of reinforcing bar assemblies in the Unit 2 NI foundation excavation ceased, although work continued on the fabrication of reinforcing bar assemblies outside of the excavation. In January of 2013, SCE&G filed LARs 13-01 and 13-02 to resolve this issue. Later that month, the NRC issued "No Objection" letters to PARs filed in connection with LARs 13-01 and 13-02 which allow work on reinforcing bar to continue in the Unit 2 NI foundation excavation. This scope of work may be undertaken as long as the design of the reinforcing bar assemblies is consistent with the terms of the requested LARs and WEC/Shaw does not proceed with any pouring of nuclear safety concrete for the Unit 2 NI

basemat until LARs 13-01 and 13-02 are issued. SCE&G has requested that LARs 13-01 and 13-02 be issued during the first quarter of 2013. SCE&G continues to monitor Shaw's compliance with the Licensing Basis in performing this work.

4. The on-site fabrication of the Unit 2 CV by CB&I is steadily progressing. Fit-up work on the rings that attach to the completed bottom head and will form the vertical walls of the CV continues. Work on the first course of Ring 2 has commenced, with completion of the fourth course work of Ring 1 scheduled for early 2013. All ground assembly work of Unit 3 Bottom Head is complete, with erection anticipated during the first half of 2013.

5. Work on the Cooling Towers has progressed during the fourth quarter of 2012. Erection of Cooling Tower 2A precast & system components continued. Concrete basin headwall placements continued for Cooling Towers 2A, 3A and 3B. Setting of CWS underground supply and return pipes for Cooling Towers 3A and 3B was completed. Grading work and bearing pile installation commenced for Units 2 & 3 CWS pump house basins. Grading work which required the United States Army Corps of Engineers (USACE) Section 404 permit in the area of Cooling Tower 2B is progressing on schedule.

6. CR-10 is the module in which the Unit 2 CV Bottom Head will be set. As previously reported, the assembly of CR-10 was completed. However, some rework was required due to design changes to improve the lap splice locations for rebar. Shaw continues to install rebar on the CR-10 structure.

7. As previously reported, excavation for the Unit 3 NI and Turbine Building was completed in July 2012. Final blasting and removal of rock has been completed. In October of 2012, geological mapping for the Unit 3 NI and Turbine Building area was completed. In December of 2012, the placement of leveling concrete in the Unit 3 NI foundation was started and engineered backfill placements have commenced.

8. The project continues to recruit and utilize the majority of construction employees from a skilled craft workforce in the state of South Carolina. More than half of these local workers are from Fairfield, Lexington, Richland, and Newberry counties. Shaw plans to employ approximately 3,000 – 3,500 employees throughout the duration of the project, with these numbers fluctuating during the various phases of construction activity.

## **E. Training**

1. Collaborative efforts between WEC, SCE&G, and Southern Nuclear Company (SNC) have resulted in a recovery plan schedule for implementation of Human Factors Engineering/Integrated System Validation (HFE/ISV) testing for the Plant Reference Simulator (PRS). The schedules for implementation of the PRS and the subsequent NRC inspection of the PRS now support the NRC licensing of operators to support fuel load. Continuous monitoring and routine status updates are ongoing to ensure that the required number of reactor operators are trained and licensed by the NRC, which will allow Unit 2 fuel load to take place. The validation and testing of the PRSs will remain an area of continued focus for the project given the importance to the project of meeting the reactor operator training schedule.

2. In September 2012, the simulator phase of the Senior Reactor Operator Certification (SROC) training began at VCSNS using the Limited Scope Simulators (LSS). This training will continue through January 2013. All students have successfully completed the systems portion of the training.

3. On December 17, 2012, SCE&G commenced its first Initial Licensed Operator class. The duration is approximately two years and will culminate with an NRC written exam in August 2014, and a simulator demonstrative exam in December 2014.

## **F. Change Control/Owners Cost Forecast**

1. **Regulatory Delay/New Requirements Costs and Other Associated Costs** – With the exception of Phase II Cyber Security costs that have yet to be determined, costs associated with the WEC/Shaw claims in the updated cost forecast for the Units presented in the May 2012 Update Filing were approved by the Commission in November 2012. Per the July 2012 agreement between SCE&G and WEC/Shaw, the resolution of these claims is being incorporated into the Change Order No. 16 draft at this time.

2. **Escalation Rate Changes** – As previously reported, the settlement agreement finalized in July 2012 fixes the escalation rate on the Fixed with Indexed Adjustment Category going forward for the life of the project. This change applies to approximately \$1.0 billion in costs under the EPC Contract which will now be escalated at the same fixed rates that apply to the existing Firm with Adjustment A cost category. These amounts were previously escalated based on the Handy-Whitman Indices. The Handy-Whitman Indices will continue to be used in adjusting non-firm cost categories including a) the Target cost categories,

*i.e.*, Actual Craft Wages, and Non-Labor Costs, and b) the Time & Materials cost category.

#### **G. Transmission**

1. **VCS1-Killian 230 kV Line** – By Order No. 2011-978, the Commission approved the siting of the VCS1-Killian 230 kV Line under the South Carolina Utility Facility Siting and Environmental Protection Act. In early January 2012, SCE&G began construction on the VCS1-Killian 230 kV Line. As of December 31, 2012, approximately eighty percent (80%) of the VCS1-Killian 230 kV Line is complete.

2. **VCS2-Lake Murray 230 kV Line No. 2 and Segment of the VCS2-St. George 230 kV Line No. 1** – Order No. 2011-978 also approved the siting of VCS2-Lake Murray 230 kV Line No. 2, and a segment of the VCS2-St. George 230 kV Line No. 1 which extends from V.C. Summer Switchyard #2 to the Lake Murray 230/115 kV Substation. In May 2012, SCE&G began construction on these lines. As of December 31, 2012, construction of these two lines is approximately forty percent (40%) complete.

3. **The Remaining Segment of VCS2-St. George 230 kV Line No. 1 and the VCS2-St. George 230 kV Line No. 2** – On September 26, 2012, by Order No. 2012-730 the Commission approved the siting of the remaining segment of VCS2-St. George 230 kV Line No. 1 and the VCS2-St. George 230 kV Line No. 2 under the South Carolina Utility Facility Siting and Environmental Protection Act. These lines are being built on existing right of way corridors. Construction of these lines has not yet begun.

4. **St. George Switching Station** – In Order No. 2012-730, the Commission also issued a Certificate of Environmental Capability and Public Convenience and Necessity authorizing construction of this switching station. The site for it was purchased in 2009. Construction of the switching station has not begun.

5. **Saluda River Substation** – On December 20, 2012, SCE&G secured the rights to the site for the new Saluda River 230/115 kV Substation. The site is adjacent to the corridor for the St. George lines and one of the St. George 230 kV lines will fold into this new substation when it is built. In Order No. 2012-730, the Commission issued a Certificate of Environmental Capability and Public Convenience and Necessity authorizing construction of the new substation.

6. **Other** – The lowering of the Parr-Midway 115 kV Line is complete. Work continues in a satisfactory manner regarding the rebuilding of the Parr-VCSN Safeguard 115 kV Line, the terminal and bus upgrades at Canadys, Summerville and Saluda Hydro substations and the other transmission related projects.

### **III. Anticipated Construction Schedules**

As of December 31, 2012, the Company and its contractors remain on schedule to complete all required milestones as adjusted pursuant to the milestone schedule contingencies approved by the Commission in Order No. 2009-104(A). Each of those adjustments is itemized in the BLRA Milestone section that follows. Accordingly, the project is in compliance with the updated construction schedules approved by the Commission in Order No. 2012-884 and with the provisions of S.C. Code Ann. § 58-33-275(A)(1).

#### **A. Construction Schedule**

The Project Licensing and Permitting, Engineering, Procurement and Construction work remains on schedule to meet the Units' Substantial Completion Dates taking into account the schedule contingencies approved in Order 2009-104(A).

#### **B. BLRA Milestones**

**Appendix 1** to this quarterly report lists and updates each of the specific milestones constituting the anticipated construction schedule for the Units pursuant to S.C. Code Ann. § 58-33-270(B)(1) and Order No. 2012-884. Comparing the current milestone target completion dates to the dates in Order No. 2012-884, 19 milestones have been advanced and 31 have been delayed.

### **IV. Schedules of the Capital Costs Incurred Including Updates to the Information Required by S.C. Code Ann. § 58-33-270(B) (6) (the Inflation Indices)**

The Capital Costs section of this report (Section IV.A) provides an update of the cumulative capital costs incurred and forecasted to be incurred in completing the project. These costs are compared to the cumulative capital cost targets approved by the Commission in Order No. 2012-884. The approved capital cost targets have been adjusted to reflect the currently reported historical escalation rates. There has not been any use by the Company of the capital cost timing contingencies that were approved by the Commission in Order No. 2009-104(A). The Inflation Indices section (Section IV.B) of this report provides updated information on inflation indices and the changes in them.

## A. Capital Costs

**Appendix 2** shows the Cumulative Project Cash Flow target as approved in Order No. 2012-884 and as updated for escalation and other Commission approved adjustments under the heading “**Per Order 2012-884 Adjusted.**”

**Appendix 2** also shows the cumulative cash flow for the project based on actual expenditures to date and the Company’s current forecast of cost and construction schedule under the heading “**Actual through December 2012 plus Projected.**”

As shown on **Appendix 2**, the actual expenditure for the project during the 12 months ended December 31, 2012, was approximately \$563 million. As shown on **Appendix 2**, line 39, the cumulative amount spent on the project as of December 31, 2012, was approximately \$1.773 billion. As shown on **Appendix 2**, line 18, the Cumulative Project Cash Flow target approved by the Commission for year-end 2012 adjusted for current escalation and WEC/Shaw billing differences is approximately \$1.907 billion. As a result, the cumulative cash flow at year-end 2012 is approximately \$133.9 million less than the target.

For comparison purposes, **Appendix 3** sets out the cash flow schedule for the project as it was approved in Order No. 2012-884. **Appendix 3** does not include any adjustments to the cash flow schedule for changes in inflation indices or adjustments in capital cost schedules made by the Company. The AFUDC forecast presented on **Appendix 3** is the AFUDC forecast that was current at the time of Order No. 2012-884.

## B. Inflation Indices

**Appendix 4** shows the updated inflation indices approved in Order No. 2009-104(A). Included is a history of the annual Handy-Whitman All Steam Index, South Atlantic Region; the Handy-Whitman All Steam and Nuclear Index, South Atlantic Region; the Handy-Whitman All Transmission Plant Index, South Atlantic Region; and the Chained GDP Index for the past 10 years. The changes in these indices and the escalation-related effects of cost rescheduling resulted in a decrease in the projected cost of the Units in future dollars from \$6.3 billion as forecast in Order No. 2009-104(A) to a forecast of \$5.7 billion using current inflation data.

## V. Updated Schedule of Anticipated Capital Costs

The updated schedule of anticipated capital costs for Units 2 & 3 is reflected in **Appendix 2**.

## **VI. Conclusion**

The Units are currently anticipated to be completed at a cost of approximately \$4.5 billion in 2007 dollars. The Company maintains an extensive staff of experts that monitors and oversees the work of its contractors and has identified and continues to monitor closely all areas of concern related to either cost or schedule for the project. The Company will continue to update the Commission and the ORS of progress and concerns as the project proceeds.

**ATTACHMENT 1****GLOSSARY OF ACRONYMS OR DEFINED TERMS**

Acronym or Defined Term	Reference
7Q10	A standard low-water flow condition used for evaluating the environmental effects of discharges and withdrawals from rivers and streams. The conditions are calculated to reflect the lowest average 7-day flow expected to be encountered during any 10-year period.
ACI	American Concrete Institute
AFUDC	Allowance for Funds Used During Construction.
AP1000	The WEC designed Advanced Pressurized water nuclear reactor of approximately 1000 megawatts generating capacity.
APOG	A group of utilities who have submitted applications for AP1000 COLs.
BLRA	The Base Load Review Act, S.C. Code Ann. § 58-33-210 et seq. (Supp. 2009).
CA	The designation for a specific pre-fabricated construction module that forms part of the reactor building, such as Module CA20.
CAP	Corrective Action Program.
CAR	A Corrective Action Report related to design, engineering or construction of the Units, or related processes, that must be corrected.
CB&I	Chicago Bridge & Iron, a sub-contractor on the project.
CES	Carolina Energy Solutions a subcontractor located in Rock Hill, South Carolina.
COLs	Combined Operating Licenses for construction and operation of a nuclear unit issued by the NRC.
COLA	A Combined Operating License Application.
Commission	The Public Service Commission of South Carolina.
Consortium	The joint venture between WEC Electric Company, LLC and the Shaw Group to construct the Units under the terms of the EPC Contract.
CR	A Condition Report communicating and memorializing concerns with the design, engineering or construction of the Units, or related processes, which report in some cases can become the basis for a Corrective Action Report.
CV	The Containment Vessel which provides containment for the reactor vessel and associated equipment.
CVBH	The Containment Vessel Bottom Head that forms the bottom of the Containment Vessel.
CWIP	Construction Work in Progress.
CWS	The Circulating Water System –the system that will transport waste heat from the turbines to the cooling towers.
Cyber Security	Technologies, processes and practices designed to protect networks, computers, programs and data from attack, damage or unauthorized access.
DCD	Design Control Document which is approved by the Nuclear Regulatory Commission and sets forth the approved design of a nuclear reactor.
Departures	Departures are minor deviations from the approved Design Control Document included in the licensing basis for the Units that do not rise to the level requiring a License Amendment Request (LAR).
EMD	Electro-Mechanical Division of Curtiss-Wright Corp., the sub-contractor for the Reactor Coolant Pumps.
EPA	The United States Environmental Protection Agency.



**ATTACHMENT 1****GLOSSARY OF ACRONYMS OR DEFINED TERMS**

Acronym or Defined Term	Reference
EPC Contract	The Engineering, Procurement and Construction Agreement for construction of the Units entered into by SCE&G and WEC/Shaw.
Exit Debriefing	A meeting held between the NRC and the licensee at the conclusion of an NRC inspection to discuss the results of the inspection.
FEIS	A Final Environmental Impact Statement as required by the National Environmental Policy Act of 1969.
FERC	The Federal Energy Regulatory Commission.
FFD	Fitness For Duty, a program that seeks to provide reasonable assurance that site personnel are trustworthy, will perform their tasks in a reliable manner, and are not under the influence of substances or otherwise impaired in a way that may adversely affect their ability to safely and competently perform their duties.
Fixed/Firm	Prices under the EPC Contract which are either fixed or are firm but subject to defined escalation rates.
FLEX	A diverse, flexible strategy led by NEI for adding more backup systems to cool nuclear reactors and used fuel storage pools and to maintain the integrity of reactor containment structures in response to lessons learned from Fukushima.
FNTP	Full Notice to Proceed authorizing all remaining safety-related work to commence.
FSAR	Final Safety Analysis Report – a report by the applicant providing support to the NRC’s approval and certification of the standard power plant design.
GDP	Gross Domestic Product.
HFE/ISV	Human Factors Engineering/Integrated Systems Validation –part of the development of a training simulator for the Units.
HL or Hot Leg	That part of the Reactor Cooling Loop that transports steam to the steam generators.
HLD	Heavy Lift Derrick - the derrick that will be erected on site to move large modules and equipment.
IBF	Subcontractor of Tioga that manufactures the Reactor Coolant Loop piping.
IFC	Issued for Construction –engineering drawings that include information necessary for construction of specific structures, systems and components.
ILO	Initial Licensed Operator.
INPO	Institute of Nuclear Power Operations.
IPS	Integrated Project Schedule for licensing and construction of the Units.
ITAAC	Inspections, Tests, Analyses, and Acceptance Criteria which are the inspections, tests, analyses and acceptance criteria that the NRC has determined to be necessary and sufficient to demonstrate that a nuclear unit has been constructed and will operate in conformity with the COLs, the Atomic Energy Act of 1954, as amended, and the NRC’s regulations.
LAR	License Amendment Request – A formal request made by VCSNS to amend the combined operating license, its appendices, or its associated bases.
LNTP	Limited Notice to Proceed authorizing a vendor to commence specific work.
LSS	Limited Scope Simulator –a training simulator with limited functionality that can be used for the initial stages of operator training.
MAB	Module Assembly Building -a building on site where large modules will be constructed and equipment will be prepared for installation in a space that is protected from the elements.

**ATTACHMENT 1****GLOSSARY OF ACRONYMS OR DEFINED TERMS**

Acronym or Defined Term	Reference
Near Term Task Force	A senior level task force created by the NRC to address lessons learned from the 2011 earthquake and tsunami in Fukushima, Japan with operating nuclear plants and new reactor applicants.
NEI	Nuclear Energy Institute.
Nelson Studs	Metal studs used in composite construction to secure concrete to steel components. The studs project out of the steel components and are surrounded by the concrete when it is poured.
NI	Nuclear Island, comprising the steel containment vessel, the reactor building, and the auxiliary building.
NLC	Nuclear Learning Center - a training facility operated by SCE&G at the Jenkinsville site.
NND	The New Nuclear Deployment Team within SCE&G.
NPDES	National Pollutant Discharge Elimination System.
NRC	The United States Nuclear Regulatory Commission.
ORS	South Carolina Office of Regulatory Staff.
OWS	Off Site Water System – the system that withdraws water from Monticello Reservoir and provides potable and filtered water for the Units.
PAR	Preliminary Amendment Request - A formal request made by VCSNS which allows VCSNS to proceed at its own risk with work consistent with an amendment request contained in an LAR prior to approval.
Pike	Pike Energy Solutions, a contractor for transmission and switchyard related work.
PRA	Probabilistic Risk Assessment.
PRHR	The Passive Residual Heat Removal Exchanger unit –a heat exchanger unit that is part of the passive safety system which provides cooling to the AP1000 reactor during emergency situations.
PRS	Plant Reference Simulator – a training simulator with full functionality that can be used in all stages of operator training.
QA	Quality Assurance – The planned and systematic activities implemented in a quality system so that the quality requirements for a product or service will be fulfilled.
QA/QC	Quality Assurance/Quality Control.
QC	Quality Control – The observation techniques and activities used to fulfill requirements for quality.
RAI	Requests for Additional Information issued by the NRC staff to license applicants.
RCA	Root Cause Analysis – identification and evaluation of the reason for non-conformance, an undesirable condition, or a problem which (when solved) restores the status quo.
RCL	The Reactor Coolant Loop –the piping and related equipment that transports heat from the reactor to the steam generator.
RCP	The Reactor Cooling Pump which forms part of the Reactor Coolant System.
RCS	The Reactor Coolant System -the complete system for transferring and transporting heat from the reactor to the steam generator.
RFI	Requests for Information issued by the NRC staff to licensees.
ROW	Right-of-way.
RT	Radiographic Testing - a nondestructive testing method of inspecting materials for hidden flaws by using the ability of short wavelength electromagnetic radiation (high energy photons) to penetrate various materials.

**ATTACHMENT 1****GLOSSARY OF ACRONYMS OR DEFINED TERMS**

Acronym or Defined Term	Reference
RWS	Raw Water System –the system for withdrawing and transporting raw water from the Monticello Reservoir.
SAT	Site Acceptance Testing.
SCDHEC	The South Carolina Department of Health and Environmental Control.
SCDNR	The South Carolina Department of Natural Resources.
SCE&G or The Company	South Carolina Electric & Gas Company.
Shaw	The Shaw Group.
SMS	Shaw Module Solutions, LLC.
SNC	Southern Nuclear Company – a subsidiary of Southern Company and licensed operator of the Vogtle Nuclear Units and two other nuclear plants.
SRO	Senior Reactor Operator.
SROC	Senior Reactor Operator Certification.
Target	Costs under the EPC Contract where targets have been established but where SCE&G pays actual costs as incurred.
Units	V. C. Summer Nuclear Station Units 2 & 3.
Update Docket	A proceeding under the BLRA seeking Commission approval of updated cost and construction schedules for the Units. The current Update Docket is Docket No. 2012-203-E.
URI	Unresolved Items – A term used by the NRC during inspections for items that require further action.
USACOE	The United States Army Corps of Engineers.
VCSNS or VCSN	V. C. Summer Nuclear Station.
WEC	Westinghouse Electric Company, LLC.
WEC/Shaw	The consortium formed by Westinghouse Electric Company, LLC and the Shaw Group.
WEC/Shaw Claims	WEC/Shaw's claims for additional charges associated with the COLs delay, the Shield Building design changes, the structural modules design changes, and the lower than anticipated rock elevations encountered in certain areas within the Unit 2 Nuclear Island.
WTP	The Off-Site Water Treatment Plant which will take water from Lake Monticello and treat it to potable water standards.
WWS	The Waste Water System –the system for collection, treatment and disposal of domestic waste water generated on site.
YFS	The Yard Fire System – the system that provides fire detection and protection outside of the plant.

**APPENDIX 1****V. C. Summer Nuclear Station Units 2 & 3**

**Quarterly Report to the South Carolina Office of Regulatory Staff  
Submitted by South Carolina Electric & Gas Company  
Pursuant to Public Service Commission Order No. 2009-104(A)**

**Quarter Ending December 31, 2012**

**Appendix 1** lists and updates each of the milestones which the Commission adopted as the Approved Construction Schedule for the Units, pursuant to S.C. Code Ann. § 58-33-270(B)(1) in Order No. 2012-884. **Appendix 1** provides columns with the following information:

1. Milestone tracking ID number.
2. The description of the milestone as updated in Order No. 2012-884.
3. The BLRA milestone date, both by year and quarter and the specific calendar date for the milestone, as approved by the Commission in Order No. 2012-884.
4. The current milestone date, both by year and quarter and the specific calendar date for the milestone.
5. For each actual completed milestone, the date by which it was completed. For milestones completed prior to the current reporting quarter, the milestone entry is shaded in gray. For milestones completed during the current reporting quarter, the milestone entry is shaded in green. For milestones with planned completion dates that vary in days instead of months, the milestone entry is shaded in yellow.
6. Information showing the number of months, if any, by which a milestone has been shifted.
7. Information as to whether any milestone has been shifted outside of the 18/24 Month Contingency approved by the Commission.
8. Information as to whether any current change in this milestone is anticipated to impact the substantial completion date.
9. Notes.

On the final page of the document, there is a chart summarizing milestone completion and movement comparing the current milestone date to the milestone date approved in Order No. 2012-884. This movement is shown for only the milestones that have not been completed.

# Appendix 1 VC Summer Units 2 and 3

Tracking ID	Order No. 2012-884 Description	Order No. 2012-884 Date	12-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2012-884 Date	Outside +18-24 Months Contingency?	Substantial Completion Date Impact?	Notes
1	Approve Engineering Procurement and Construction Agreement	Complete		5/23/2008		No	No	
2	Issue P.O.'s to nuclear component fabricators for Units 2 and 3 Containment Vessels	Complete		12/3/2008		No	No	
3	Contractor Issue PO to Passive Residual Heat Removal Heat Exchanger Fabricator - First Payment - Unit 2	Complete		8/18/2008		No	No	
4	Contractor Issue PO to Accumulator Tank Fabricator - Unit 2	Complete		7/31/2008		No	No	
5	Contractor Issue PO to Core Makeup Tank Fabricator - Units 2 & 3	Complete		9/30/2008		No	No	
6	Contractor Issue PO to Squib Valve Fabricator - Units 2 & 3	Complete		3/31/2009		No	No	
7	Contractor Issue PO to Steam Generator Fabricator - Units 2 & 3	Complete		5/29/2008		No	No	
8	Contractor Issue Long Lead Material PO to Reactor Coolant Pump Fabricator - Units 2 & 3	Complete		6/30/2008		No	No	
9	Contractor Issue PO to Pressurizer Fabricator - Units 2 & 3	Complete		8/18/2008		No	No	
10	Contractor Issue PO to Reactor Coolant Loop Pipe Fabricator - First Payment - Units 2 & 3	Complete		6/20/2008		No	No	
11	Reactor Vessel Internals - Issue Long Lead Material PO to Fabricator - Units 2 and 3	Complete		11/21/2008		No	No	
12	Contractor Issue Long Lead Material PO to Reactor Vessel Fabricator - Units 2 & 3	Complete		5/29/2008		No	No	
13	Contractor Issue PO to Integrated Head Package Fabricator - Units 2 & 3	Complete		7/31/2009		No	No	
14	Control Rod Drive Mechanism Issue PO for Long Lead Material to Fabricator - Units 2 and 3 - first payment	Complete		6/21/2008		No	No	
15	Issue P.O.'s to nuclear component fabricators for Nuclear Island structural CA20 Modules	Complete		8/28/2009		No	No	
16	Start Site Specific and balance of plant detailed design	Complete		9/11/2007		No	No	

Color Legend  = Completed  = Completed this Quarter  = Movement in days only



# Appendix 1 VC Summer Units 2 and 3

12-4Q

Tracking ID	Order No. 2012-884 Description	Order No. 2012-884 Date	12-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2012-884 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
17	Instrumentation & Control Simulator - Contractor Place Notice to Proceed - Units 2 & 3	Complete		10/31/2008		No	No	
18	Steam Generator - Issue Final PO to Fabricator for Units 2 and 3	Complete		6/30/2008		No	No	
19	Reactor Vessel Internals - Contractor Issue PO for Long Lead Material (Heavy Plate and Heavy Forgings) to Fabricator - Units 2 & 3	Complete		1/29/2010		No	No	
20	Contractor Issue Final PO to Reactor Vessel Fabricator - Units 2 & 3	Complete		9/30/2008		No	No	
21	Variable Frequency Drive Fabricator Issue Transformer PO - Units 2 & 3	Complete		4/30/2009		No	No	
22	Start clearing, grubbing and grading	Complete		1/26/2009		No	No	
23	Core Makeup Tank Fabricator Issue Long Lead Material PO - Units 2 & 3	Complete		10/31/2008		No	No	
24	Accumulator Tank Fabricator Issue Long Lead Material PO - Units 2 & 3	Complete		10/31/2008		No	No	
25	Pressurizer Fabricator Issue Long Lead Material PO - Units 2 & 3	Complete		10/31/2008		No	No	
26	Reactor Coolant Loop Pipe - Contractor Issue PO to Fabricator - Second Payment - Units 2 & 3	Complete		4/30/2009		No	No	
27	Integrated Head Package - Issue PO to Fabricator - Units 2 and 3 - second payment	Complete		7/31/2009		No	No	
28	Control Rod Drive Mechanisms - Contractor Issue PO for Long Lead Material to Fabricator - Units 2 & 3	Complete		6/30/2008		No	No	
29	Contractor Issue PO to Passive Residual Heat Removal Heat Exchanger Fabricator - Second Payment - Units 2 & 3	Complete		10/31/2008		No	No	
30	Start Parr Road Intersection work	Complete		2/13/2009		No	No	
31	Reactor Coolant Pump - Issue Final PO to Fabricator - Units 2 and 3	Complete		6/30/2008		No	No	
32	Integrated Heat Packages Fabricator Issue Long Lead Material PO - Units 2 & 3	Complete		10/1/2009		No	No	

Color Legend

 = Completed

 = Completed this quarter

 = Movement in days only

# Appendix 1 VC Summer Units 2 and 3

Tracking ID	Order No. 2012-884 Description	Order No. 2012-884 Date	12-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2012-884 Date	Outside 118/24 Months Contingency?	Substantial Completion Date Impact?	Notes
33	Design Finalization Payment 3	Complete		1/30/2009		No	No	
34	Start site development	Complete		6/23/2008		No	No	
35	Contractor Issue PO to Turbine Generator Fabricator - Units 2 & 3	Complete		2/19/2009		No	No	
36	Contractor Issue PO to Main Transformers Fabricator - Units 2 & 3	Complete		9/25/2009		No	No	
37	Core Makeup Tank Fabricator Notice to Contractor Receipt of Long Lead Material - Units 2 & 3	Complete		12/30/2010		No	No	
38	Design Finalization Payment 4	Complete		4/30/2009		No	No	
39	Turbine Generator Fabricator Issue PO for Condenser Material - Unit 2	Complete		8/28/2009		No	No	
40	Reactor Coolant Pump Fabricator Issue Long Lead Material Lot 2 - Units 2 & 3	Complete		4/30/2009		No	No	
41	Passive Residual Heat Removal Heat Exchanger Fabricator Receipt of Long Lead Material - Units 2 & 3	Complete		5/27/2010		No	No	
42	Design Finalization Payment 5	Complete		7/31/2009		No	No	
43	Start erection of construction buildings; to include craft facilities for personnel, tools, equipment; first aid facilities; field offices for site management and support personnel; temporary warehouses; and construction hiring office.	Complete		12/18/2009		No	No	
44	Reactor Vessel Fabricator Notice to Contractor of Receipt of Flange Nozzle Shell Forging - Unit 2	Complete		8/28/2009		No	No	
45	Design Finalization Payment 6	Complete		10/7/2009		No	No	
46	Instrumentation and Control Simulator - Contractor Issue PO to Subcontractor for Radiation Monitor System - Units 2 & 3	Complete		12/17/2009		No	No	
47	Reactor Vessel Internals - Fabricator Start Fit and Welding of Core Shroud Assembly - Unit 2	Complete		7/29/2011		No	No	

Color Legend

 = Completed

 = Completed this quarter

 = Movement in days only



# Appendix 1 VC Summer Units 2 and 3

Tracking ID	Order No. 2012-884 Description	Order No. 2012-884 Date	12-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2012-884 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
48	Turbine Generator Fabricator Issue PO for Moisture Separator Reheater/Feedwater Heater Material - Unit 2	Complete		4/30/2010		No	No	
49	Reactor Coolant Loop Pipe Fabricator Acceptance of Raw Material - Unit 2	Complete		2/18/2010		No	No	
50	Reactor Vessel Internals - Fabricator Start Weld Neutron Shield Spacer Pads to Assembly - Unit 2	Complete		8/28/2012		No	No	
51	Control Rod Drive Mechanisms - Fabricator to Start Procurement of Long Lead Material - Unit 2	Complete		6/30/2009		No	No	
52	Contractor Notified that Pressurizer Fabricator Performed Cladding on Bottom Head - Unit 2	Complete		12/23/2010		No	No	
53	Start excavation and foundation work for the standard plant for Unit 2	Complete		3/15/2010		No	No	
54	Steam Generator Fabricator Notice to Contractor of Receipt of 2nd Steam Generator Tubesheet Forging - Unit 2	Complete		4/30/2010		No	No	
55	Reactor Vessel Fabricator Notice to Contractor of Outlet Nozzle Welding to Flange Nozzle Shell Completion - Unit 2	Complete		12/30/2010		No	No	
56	Turbine Generator Fabricator Notice to Contractor Condenser Fabrication Started - Unit 2	Complete		5/17/2010		No	No	
57	Complete preparations for receiving the first module on site for Unit 2.	Complete		1/22/2010		No	No	
58	Steam Generator Fabricator Notice to Contractor of Receipt of 1st Steam Generator Transition Cone Forging - Unit 2	Complete		4/21/2010		No	No	
59	Reactor Coolant Pump Fabricator Notice to Contractor of Manufacturing of Casing Completion - Unit 2	Complete		11/16/2010		No	No	

 = Completed  
 = Completed this quarter  
 = Movement in days daily

 = Completed  
 = Completed this quarter  
 = Movement in days daily



# Appendix 1 VC Summer Units 2 and 3

Tracking ID	Order No. 2012-884 Description	Order No. 2012-884 Date	12-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2012-884 Date	Outside 18-24 Months Contingency?	Substantial Completion Date Impact?	Notes
60	Reactor Coolant Loop Pipe Fabricator Notice to Contractor of Machining, Heat Treating & Non-Destructive Testing Completion - Unit 2	Complete		3/20/2012		No	No	
61	Core Makeup Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 2	Complete		11/26/2012		No	No	
62	Polar Crane Fabricator Issue PO for Main Hoist Drum and Wire Rope - Units 2 & 3	Complete		2/1/2011		No	No	
63	Control Rod Drive Mechanisms - Fabricator to Start Procurement of Long Lead Material - Unit 3	Complete		6/14/2011		No	No	
64	Turbine Generator Fabricator Notice to Contractor Condenser Ready to Ship - Unit 2	Complete		3/26/2012		No	No	
65	Start placement of mud mat for Unit 2	Complete		7/20/2012		No	No	
66	Steam Generator Fabricator Notice to Contractor of Receipt of 1st Steam Generator Tubing - Unit 2	Complete		9/28/2010		No	No	
67	Pressurizer Fabricator Notice to Contractor of Welding of Upper and Intermediate Shells Completion - Unit 2	Complete		10/28/2011		No	No	
68	Reactor Vessel Fabricator Notice to Contractor of Closure Head Cladding Completion - Unit 3	Complete		6/28/2012		No	No	
69	Begin Unit 2 first nuclear concrete placement	8/24/2012	2/28/2013		+6 Month(s)	No	No	Due to schedule refinement and review.
70	Reactor Coolant Pump Fabricator Notice to Contractor of Stator Core Completion - Unit 2	Complete		12/1/2011		No	No	
71	Fabricator Start Fit and Welding of Core Shroud Assembly - Unit 2	Complete		7/29/2011		No	No	
72	Steam Generator Fabricator Notice to Contractor of Completion of 1st Steam Generator Tubing Installation - Unit 2	Complete		1/27/2012		No	No	
73	Reactor Coolant Loop Pipe - Shipment of Equipment to Site - Unit 2	12/31/2012	6/30/2013		+6 Month(s)	No	No	Due to schedule refinement and review.

Color Legend

 = Completed

 = Completed this quarter

 = Movement in days only

# Appendix 1 VC Summer Units 2 and 3

Tracking ID	Order No. 2012-884 Description	Order No. 2012-884 Date	12-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2012-884 Date	Outside +18/24 Months Contingency?	Substantial Completion Date Impact?	Notes
74	Control Rod Drive Mechanism - Ship Remainder of Equipment (Latch Assembly & Rod Travel Housing) to Head Supplier - Unit 2	Complete		7/16/2012		No	No	
75	Pressurizer Fabricator Notice to Contractor of Welding of Lower Shell to Bottom Head Completion - Unit 2	Complete		12/22/2011		No	No	
76	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Steam Generator Tubing Installation - Unit 2	Complete		5/4/2012		No	No	
77	Design Finalization Payment 14	Complete		10/31/2011		No	No	
78	Set module CA04 for Unit 2	11/6/2012	6/24/2013		+7 Month(s)	No	No	Due to schedule refinement and review.
79	Passive Residual Heat Removal Heat Exchanger Fabricator Notice to Contractor of Final Post Weld Heat Treatment - Unit 2	Complete		5/24/2011		No	No	
80	Passive Residual Heat Removal Heat Exchanger Fabricator Notice to Contractor of Completion of Tubing - Unit 2	Complete		5/29/2012		No	No	
81	Polar Crane Fabricator Notice to Contractor of Girder Fabrication Completion - Unit 2	Complete		10/23/2012		No	No	
82	Turbine Generator Fabricator Notice to Contractor Condenser Ready to Ship - Unit 3	8/31/2013	8/31/2013			No	No	
83	Set Containment Vessel ring #1 for Unit 2	1/7/2013	7/5/2013		+6 Month(s)	No	No	Due to schedule refinement and review.
84	Reactor Coolant Pump Fabricator Delivery of Casings to Port of Export - Unit 2	7/31/2012	3/31/2013		+8 Month(s)	No	No	Due to schedule refinement and review.
85	Reactor Coolant Pump Fabricator Notice to Contractor of Stator Core Completion - Unit 3	8/31/2013	8/31/2013			No	No	
86	Reactor Vessel Fabricator Notice to Contractor of Receipt of Core Shell Forging - Unit 3	Complete		3/29/2012		No	No	
87	Contractor Notified that Pressurizer Fabricator Performed Gladding on Bottom Head - Unit 3	Complete		11/9/2011		No	No	

Color Legend

 = Completed

 = Completed this quarter

 = Movement in days only

**Appendix 1  
VC Summer Units 2 and 3**

Tracking ID	Order No. 2012-884 Description	Order No. 2012-884 Date	124Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2012-884 Date	Outside 18/24 Months Contingency?	Substantial Completion Date Impact?	Notes
88	Set Nuclear Island structural module CA03 for Unit 2	6/26/2013	12/17/2013		+6 Month(s)	No	No	Due to schedule refinement and review.
89	Squib Valve Fabricator Notice to Contractor of Completion of Assembly and Test for Squib Valve Hardware - Unit 2	Complete		5/10/2012		No	No	
90	Accumulator Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 3	3/31/2013	7/31/2013		+4 Month(s)	No	No	Due to schedule refinement and review.
91	Polar Crane Fabricator Notice to Contractor of Electric Panel Assembly Completion - Unit 2	3/31/2013	4/30/2013		+1 Month(s)	No	No	Due to schedule refinement and review.
92	Start containment large bore pipe supports for Unit 2	6/28/2013	11/13/2013		+5 Month(s)	No	No	Due to schedule refinement and review.
93	Integrated Head Package - Shipment of Equipment to Site - Unit 2	3/31/2013	1/31/2014		+10 Month(s)	No	No	Due to schedule refinement and review.
94	Reactor Coolant Pump Fabricator Notice to Contractor of Final Stator Assembly Completion - Unit 2	5/31/2013	10/31/2013		+5 Month(s)	No	No	Due to delay in predecessor schedule activities.
95	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Steam Generator Tubing Installation - Unit 3	6/30/2013	7/31/2013		+1 Month(s)	No	No	Due to schedule refinement and review.
96	Steam Generator Fabricator Notice to Contractor of Satisfactory Completion of 1st Steam Generator Hydrotest - Unit 2	1/31/2013	1/31/2013			No	No	
97	Start concrete fill of Nuclear Island structural modules CA01 and CA02 for Unit 2	4/3/2014	6/30/2014		+2 Month(s)	No	No	Due to schedule refinement and review.
98	Passive Residual Heat Removal Heat Exchanger - Delivery of Equipment to Port of Entry - Unit 2	12/31/2012	5/31/2013		+5 Month(s)	No	No	Due to schedule refinement and review.
99	Refueling Machine Fabricator Notice to Contractor of Satisfactory Completion of Factory Acceptance Test - Unit 2	11/30/2013	10/31/2013		-1 Month(s)	No	No	Schedule ahead of plan.
100	Deliver Reactor Vessel Internals to Port of Export - Unit 2	1/31/2014	4/30/2014		+3 Month(s)	No	No	Due to schedule refinement and review.
101	Set Unit 2 Containment Vessel #3	4/24/2014	8/12/2014		+4 Month(s)	No	No	Due to schedule refinement and review.

Color Legend: = Completed = Completed this Quarter = Movement in days only



# Appendix 1 VC Summer Units 2 and 3

Tracking ID	Order No. 2012-884 Description	Order No. 2012-884 Date	12-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2012-884 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
102	Steam Generator - Contractor Acceptance of Equipment at Port of Entry - Unit 2	7/31/2013	8/31/2013		+1 Month(s)	No	No	Due to schedule refinement and review.
103	Turbine Generator Fabricator Notice to Contractor Turbine Generator Ready to Ship - Unit 2	4/30/2013	4/30/2013			No	No	
104	Pressurizer Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 3	3/31/2014	12/31/2013		-3 Month(s)	No	No	Schedule ahead of plan.
105	Polar Crane - Shipment of Equipment to Site - Unit 2	1/31/2014	12/31/2013		-1 Month(s)	No	No	Schedule ahead of plan.
106	Receive Unit 2 Reactor Vessel on site from fabricator	5/13/2014	6/30/2013		-11 Month(s)	No	No	Schedule ahead of plan.
107	Set Unit 2 Reactor Vessel	6/23/2014	7/18/2014		+1 Month(s)	No	No	Due to schedule refinement and review.
108	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Channel Head to Tubesheet Assembly Welding - Unit 3	12/31/2013	12/31/2013			No	No	
109	Reactor Coolant Pump Fabricator Notice to Contractor of Final Stator Assembly Completion - Unit 3	8/31/2014	12/31/2014		+4 Month(s)	No	No	Due to schedule refinement and review.
110	Reactor Coolant Pump - Shipment of Equipment to Site (2 Reactor Coolant Pumps) - Unit 2	10/31/2013	3/31/2014		+5 Month(s)	No	No	Due to schedule refinement and review.
111	Place first nuclear concrete for Unit 3	10/9/2013	10/1/2013			No	No	Due to schedule refinement and review.
112	Set Unit 2 Steam Generator	10/23/2014	11/8/2014		+1 Month(s)	No	No	Due to schedule refinement and review.
113	Main Transformers Ready to Ship - Unit 2	9/30/2013	9/30/2013			No	No	
114	Complete Unit 3 Steam Generator Hydrotest at fabricator	2/28/2014	7/31/2014		+5 Month(s)	No	No	Due to schedule refinement and review.
115	Set Unit 2 Containment Vessel Bottom Head on basement legs	10/11/2012	5/8/2013		+7 Month(s)	No	No	Due to schedule refinement and review.
116	Set Unit 2 Pressurizer Vessel	5/16/2014	8/8/2014		+3 Month(s)	No	No	Due to schedule refinement and review.
117	Reactor Coolant Pump Fabricator Notice to Contractor of Satisfactory Completion of Factory Acceptance Test - Unit 3	2/28/2015	1/31/2015		-1 Month(s)	No	No	Schedule ahead of plan.

Color Legend

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 = Completed this quarter

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# Appendix 1 VC Summer Units 2 and 3

Tracking ID	Order No. 2012-884 Description	Order No. 2012-884 Date	12-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2012-884 Date	Outside + 18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
118	Deliver Reactor Vessel Internals to Port of Export - Unit 3	6/30/2015	3/31/2015		-3 Month(s)	No	No	Schedule ahead of plan.
119	Main Transformers Fabricator Issue PO for Material - Unit 3	2/28/2015	2/28/2015			No	No	
120	Complete welding of Unit 2 Passive Residual Heat Removal System piping	2/5/2015	1/26/2015		-1 Month(s)	No	No	Schedule ahead of plan.
121	Steam Generator - Contractor Acceptance of Equipment at Port of Entry - Unit 3	4/30/2015	1/31/2015		-3 Month(s)	No	No	Schedule ahead of plan.
122	Refueling Machine - Shipment of Equipment to Site - Unit 3	2/28/2015	10/31/2014		-4 Month(s)	No	No	Schedule ahead of plan.
123	Set Unit 2 Polar Crane	1/9/2015	3/30/2015		+2 Month(s)	No	No	Due to schedule refinement and review.
124	Reactor Coolant Pumps - Shipment of Equipment to Site - Unit 3	6/30/2015	8/31/2015		+2 Month(s)	No	No	Due to schedule refinement and review.
125	Main Transformers Ready to Ship - Unit 3	7/31/2015	6/30/2015		-1 Month(s)	No	No	Schedule ahead of plan.
126	Spent Fuel Storage Rack - Shipment of Last Rack Module - Unit 3	7/31/2014	7/31/2014			No	No	
127	Start electrical cable pulling in Unit 2 Auxiliary Building	8/14/2013	3/21/2014		+7 Month(s)	No	No	Due to schedule refinement and review.
128	Complete Unit 2 Reactor Coolant System cold hydro	1/22/2016	1/28/2016			No	No	Due to logic refinement and review of start up schedule.
129	Activate class 1E DC power in Unit 2 Auxiliary Building.	3/15/2015	4/28/2015		+1 Month(s)	No	No	Due to schedule refinement and review.
130	Complete Unit 2 hot functional test.	5/3/2016	4/13/2016		-1 Month(s)	No	No	Schedule ahead of plan.
131	Install Unit 3 ring 3 for containment vessel	8/25/2015	7/22/2015		-1 Month(s)	No	No	Schedule ahead of plan.
132	Load Unit 2 nuclear fuel	9/15/2016	11/5/2016		+2 Month(s)	No	No	Due to logic refinement and review of start up schedule.
133	Unit 2 Substantial Completion	3/15/2017	3/15/2017			No	No	
134	Set Unit 3 Reactor Vessel	10/22/2015	4/29/2015		-6 Month(s)	No	No	Schedule ahead of plan.
135	Set Unit 3 Steam Generator #2	2/25/2016	9/16/2015		-5 Month(s)	No	No	Schedule ahead of plan.
136	Set Unit 3 Pressurizer Vessel	7/16/2015	5/6/2015		-2 Month(s)	No	No	Schedule ahead of plan.

Color Legend




 = Completed

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 = Movement in days only

# Appendix 1 VC Summer Units 2 and 3

Tracking ID	Order No. 2012-884 Description	Order No. 2012-884 Date	12-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2012-884 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
137	Complete welding of Unit 3 Passive Residual Heat Removal System piping	6/16/2016	12/14/2015		-6 Month(s)	No	No	Schedule ahead of plan.
138	Set Unit 3 polar crane	5/9/2016	6/9/2016		+1 Month(s)	No	No	Due to logic refinement and review of start up schedule.
139	Start Unit 3 Shield Building roof slab rebar placement	5/26/2016	2/11/2016		-3 Month(s)	No	No	Schedule ahead of plan.
140	Start Unit 3 Auxiliary Building electrical cable pulling	11/7/2014	9/29/2014		-2 Month(s)	No	No	Schedule ahead of plan.
141	Activate Unit 3 Auxiliary Building class 1E DC power	5/15/2016	5/17/2016			No	No	Due to logic refinement and review of start up schedule.
142	Complete Unit 3 Reactor Coolant System cold hydro	3/22/2017	3/6/2017			No	No	Due to logic refinement and review of start up schedule.
143	Complete Unit 3 hot functional test	7/3/2017	5/22/2017		-2 Month(s)	No	No	Schedule ahead of plan.
144	Complete Unit 3 nuclear fuel load	11/15/2017	12/29/2017		+1 Month(s)	No	No	Due to logic refinement and review of start up schedule.
145	Begin Unit 3 full power operation	4/8/2018	4/26/2018			No	No	Due to logic refinement and review of start up schedule.
146	Unit 3 Substantial Completion	5/15/2018	5/15/2018			No	No	Due to logic refinement and review of start up schedule.
<p><b>SUMMARY</b></p> <p>Total Milestones Completed 81 out of 146 = 55%</p> <p>Milestone Movement - Order No. 2010-12 vs. 12-4Q:</p> <p>a) Forward Movement 31 out of 146 = 21%</p> <p>b) Backward Movement 19 out of 146 = 13%</p> <p>Milestones Within +12 to +17 Month range 0 out of 146 = 0%</p>								

Color Legend  = Completed  = Completed this quarter  = Movement in days only

**APPENDIX 2**

**V. C. Summer Nuclear Station Units 2 & 3**

**Quarterly Report to the South Carolina Office of Regulatory Staff  
Submitted by South Carolina Electric & Gas Company  
Pursuant to Public Service Commission Order No. 2009-104(A)**

**Quarter Ending December 31, 2012**

**Appendix 2** is an updated and expanded version of the information contained in the capital cost schedule approved by the Commission in Order No. 2012-884.

**Appendix 2** shows:

1. The actual expenditures on the project by plant cost category through the current period.
2. The changes in capital costs reflecting the Company's current forecast of expenditures on the project for each future period by plant cost category. In updating its cost projections the Company has used the current construction schedule for the project and the Commission-approved inflation indices as set forth in **Appendix 4** to this report.
3. The cumulative CWIP for the project and the balance of CWIP that is not yet reflected in revised rates.
4. The current rate for calculating AFUDC computed as required under applicable FERC regulations.

The Cumulative Project Cash Flow target as approved in Order No. 2012-884 and as updated for escalation and other Commission-approved adjustments is found under the heading "**Per Order 2012-884 Adjusted.**" The adjustments reflect:

1. Changes in inflation indices.
2. Budget Carry-Forward Adjustments used, where appropriate to track the effect of lower-than-expected cumulative costs on the future cumulative cash flow of the project.

**Appendix 2** also shows the cumulative cash flow for the project based on actual expenditures to date and the current construction schedule and forecast of year-by-year costs going forward. This information is found under the heading "**Actual through December 2012 plus Projected.**"

## Appendix 2

PUBLIC VERSION

## RESTATEd and UPDATED CONSTRUCTION EXPENDITURES

(Thousands of \$)

## V.C. Summer Units 2 and 3 - Summary of SCE&amp;G Capital Cost Components

Per Order 2012-884 Adjusted	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Total</b>												
Annual Project Cash Flow(per order)	21,723	100,905	340,003	398,551	349,061	713,307	950,179	1,007,569	831,281	521,351	201,408	81,510
Capital Cost Rescheduling Contingency	-	-	-	-	-	-	-	-	-	-	-	-
Budget Carry-Forward Adjustment	-	-	-	-	-	-	-	-	-	-	-	-
Net	21,723	100,905	340,003	398,551	349,061	713,307	950,179	1,007,569	831,281	521,351	201,408	81,510
Adjusted for Change in Escalation	21,723	100,905	340,003	398,551	349,061	696,854	915,027	996,532	821,501	513,001	199,917	80,880
Cumulative Project Cash Flow(Target)	21,723	122,829	462,832	861,183	1,210,244	1,907,098	2,822,125	3,818,657	4,640,158	5,153,159	5,353,077	5,433,957

## Actual through December 2012\* plus Projected

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Total</b>												
Plant Cost Categories												
Fixed with No Adjustment	-	26	724	927	11,964	55,954	71,963	59,468	67,102	60,010	1,374	-
Firm with Fixed Adjustment A	21,723	97,386	319,073	374,810	314,977	495,987	818,960	780,483	665,128	393,518	198,057	66,303
Firm with Fixed Adjustment B	-	3,519	20,930	23,741	34,084	66,920	137,887	199,606	201,730	135,245	81,452	29,523
Actual Craft Wages												
Non-Labor Costs												
Time & Materials												
Owners Costs												
Transmission Costs	329,512											
Total Base Project Costs(2007 \$)	4,548,405											
Total Project Escalation	934,638											
<b>Total Revised Project Cash Flow</b>	<b>5,483,043</b>	<b>100,905</b>	<b>340,003</b>	<b>398,551</b>	<b>349,061</b>	<b>562,907</b>	<b>956,848</b>	<b>980,088</b>	<b>866,858</b>	<b>528,763</b>	<b>279,509</b>	<b>97,826</b>
Cumulative Project Cash Flow(Revised)	21,723	122,829	462,832	861,183	1,210,244	1,773,151	2,729,999	3,710,087	4,576,945	5,105,708	5,385,217	5,483,043
AFUDC(Capitalized Interest)	214,730	645	3,497	10,564	17,150	18,980	29,249	41,001	38,522	25,382	13,349	2
<b>Gross Construction</b>	<b>5,697,773</b>	<b>104,403</b>	<b>350,567</b>	<b>415,701</b>	<b>363,278</b>	<b>581,888</b>	<b>986,096</b>	<b>1,021,089</b>	<b>905,380</b>	<b>554,145</b>	<b>292,858</b>	<b>100,000</b>
<b>Construction Work in Progress</b>	<b>22,368</b>	<b>126,771</b>	<b>477,338</b>	<b>893,039</b>	<b>1,256,317</b>	<b>1,838,205</b>	<b>2,824,301</b>	<b>3,845,390</b>	<b>4,750,770</b>	<b>5,304,915</b>	<b>5,597,773</b>	<b>5,697,773</b>
<b>CWIP Currently in Rates</b>	<b>1,535,466</b>											
<b>December 31, 2012 Actual Incremental CWIP Not Currently in Rates</b>	<b>301,739</b>											

\*Applicable index escalation rates for 2012 are estimated. Escalation is subject to restatement when actual indices for 2012 are final.

Notes:

2012-2018 AFUDC rate applied

5.28%

The AFUDC rate applied is the current SCE&amp;G rate. AFUDC rates can vary with changes in market interest rates, SCE&amp;G's embedded cost of capital, capitalization ratios, construction work in process, and SCE&amp;G's short-term debt outstanding.



**APPENDIX 3**

**V. C. Summer Nuclear Station Units 2 & 3**

**Quarterly Report to the South Carolina Office of Regulatory Staff  
Submitted by South Carolina Electric & Gas Company  
Pursuant to Public Service Commission Order No. 2009-104(A)**

**Quarter Ending December 31, 2012**

For comparison purposes, **Appendix 3** provides the schedule of capital costs for the project which was approved by the Commission in Order No. 2012-884 as the Approved Capital Cost of the Units, pursuant to S.C. Code Ann. § 58-33-270(B)(2). **Appendix 3** also reflects the forecast of AFUDC expense based on these adjusted schedules and the AFUDC rates that were current at the time of Order No. 2012-884. **Appendix 3** is intended to provide a fixed point of reference for future revisions and updating. While the schedule of costs contained on **Appendix 3** is subject to revision for escalation, changes in AFUDC rates and amounts, capital cost scheduling contingencies and other contingency adjustments as authorized in Order No. 2009-104(A), no such adjustments have been made to the schedules presented here.

**RESTATED and UPDATED CONSTRUCTION EXPENDITURES**

(Thousands of \$)

**V.C. Summer Units 2 and 3 - Summary of SCE&G Capital Cost Components**

Per Order 2012-884

Plant Cost Categories	Actual					Projected						
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total												
Fixed with No Adjustment	-	26	724	927	11,964	57,206	56,903	57,508	77,990	64,727	1,537	-
Firm with Fixed Adjustment A	21,723	97,386	319,073	374,810	314,977	613,678	780,753	792,394	647,295	386,537	142,999	56,781
Firm with Fixed Adjustment B	-	3,519	20,930	23,741	34,084	99,630	169,425	215,175	183,987	134,815	58,409	24,729
Firm with Indexed Adjustment												
Actual Craft Wages												
Non-Labor Costs												
Time & Materials												
Owners Costs												
Transmission Costs												
Total Base Project Costs(2007 \$)												
Total Project Escalation												
Total Revised Project Cash Flow												
Cumulative Project Cash Flow(Revised)												
AFUDC(Capitalized Interest)												
Construction Work in Progress												

**APPENDIX 4**

**V. C. Summer Nuclear Station Units 2 & 3**

**Quarterly Report to the South Carolina Office of Regulatory Staff  
Submitted by South Carolina Electric & Gas Company  
Pursuant to Public Service Commission Order No. 2009-104(A)**

**Quarter Ending December 31, 2012**

**Appendix 4** shows the changes in the inflation indices approved in Order No. 2009-104(A). Included is a ten year history of the Handy-Whitman All Steam Index, South Atlantic Region; the Handy-Whitman All Steam and Nuclear Index, South Atlantic Region; the Handy-Whitman All Transmission Plant Index, South Atlantic Region; and the Chained GDP Index. The change in the relevant indices from the Combined Application is also provided.

## Appendix 4, Chart A

### Inflation Indices, Chart A

HW All Steam Generation Plant Index, July 2012

<u>Year</u>	<u>Index</u>	<u>Yr/Yr change</u>	<u>Three Year Average</u>	<u>Five Year Average</u>	<u>Year Average</u>
2012	584	1.92%	3.82%	3.60%	4.67%
2011	573	4.75%	2.31%	4.75%	
2010	547	4.79%	3.78%	5.31%	
2009	522	-2.61%	4.74%	5.50%	
2008	536	9.16%	8.13%	7.35%	
2007	491	7.68%	6.99%	5.74%	
2006	456	7.55%	6.64%	4.75%	
2005	424	5.74%	4.49%		
2004	401	6.65%	3.50%		
2003	376	1.08%			
2002	372	2.76%			
2001	362				

BLRA  
Filing  
Jul-07

Order 2010-12  
Jan-09

Order 2011-345  
Jul-10

Update  
Jul-12

HW All Steam Index:

One year	7.68%
Five Year	5.74%

4.83%	4.79%	1.92%
7.19%	5.31%	3.60%

## Appendix 4, Chart B

### Inflation Indices, Chart B

HW All Steam and Nuclear Generation Plant Index, July 2012

<u>Year</u>	<u>Index</u>	<u>Yr/Yr change</u>	<u>Three Year Average</u>	<u>Five Year Average</u>	<u>ten Year Average</u>
2012	584	2.10%	3.82%	3.64%	4.70%
2011	572	4.76%	2.31%	4.76%	
2010	546	4.60%	3.78%	5.32%	
2009	522	-2.43%	4.82%	5.55%	
2008	535	9.18%	8.15%	7.37%	
2007	490	7.69%	7.00%	5.75%	
2006	455	7.57%	6.66%	4.77%	
2005	423	5.75%	4.50%		
2004	400	6.67%	3.50%		
2003	375	1.08%			
2002	371	2.77%			
2001	361				

<b>BLRA</b>
<b>Filing</b>
<b>Jul-07</b>
<b>7.69%</b>
<b>5.75%</b>

<b>Order 2010-12</b>	<b>Order 2011-345</b>	<b>Update</b>
<b>Jan-09</b>	<b>Jul-10</b>	<b>Jul-12</b>
<b>4.84%</b>	<b>4.60%</b>	<b>2.10%</b>
<b>7.20%</b>	<b>5.32%</b>	<b>3.64%</b>

#### HW All Steam/Nuclear Index:

One year  
Five Year

## Appendix 4, Chart C

### Inflation Indices, Chart C

HW All Transmission Plant Index, July 2012

<u>Year</u>	<u>Index</u>	<u>Yr/Yr change</u>	<u>Three Year Average</u>	<u>Five Year Average</u>	<u>Year Average</u>
2012	584	-0.17%	3.25%	2.56%	4.71%
2011	585	4.84%	1.30%	4.36%	
2010	558	5.08%	2.71%	5.23%	
2009	531	-6.02%	3.96%	5.48%	
2008	565	9.07%	9.02%	8.73%	
2007	518	8.82%	8.11%	6.86%	
2006	476	9.17%	8.58%	5.25%	
2005	436	6.34%	5.43%		
2004	410	10.22%	3.59%		
2003	372	-0.27%			
2002	373	0.81%			
2001	370				

<b>BLRA</b>	<b>Order 2010-12</b>	<b>Order 2011-345</b>	<b>Update</b>
<b>Filing</b>	<b>Jan-09</b>	<b>Jul-10</b>	<b>Jul-12</b>
<b>Jul-07</b>			
8.82%	7.41%	5.08%	-0.17%
6.86%	8.60%	5.23%	2.56%

HW All Transmission Plant Index

One year

Five Year

## Appendix 4

## Inflation Indices, Chart D

GDP Chained Price Index, 2012

SERIES/TYPE	UNIT	SHORT LABEL	ID	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Chained Price Index--Gross Domestic Product</b>																	
(2005=100) Chained price index-gross domestic product, Source: BEA, Units: Index, 2005=100.0																	
U.S. Macro - 10 Year Baseline			45158933	86.77	88.65	90.65	92.11	94.10	96.77	100.00	104.21	105.68	107.82	109.66	110.23	112.74	114.83
Annual Percent Change					2.17%	2.26%	1.61%	2.16%	2.84%	3.34%	4.21%	1.41%	2.02%	1.71%	0.52%	2.28%	1.85%
3-Year Annual Percent Change							2.01%	2.01%	2.20%	2.78%	3.46%	2.98%	2.54%	1.71%	1.42%	1.50%	1.55%
5-Year Annual Percent Change									2.21%	2.44%	2.83%	2.78%	2.76%	2.53%	1.97%	1.59%	1.67%
10-Year Annual Percent Change																	2.23%
<b>Consumer Price Index, All-Urban</b>																	
(1982-84=1.00) Consumer price index, all-urban, Source: BLS, Units: - 1982-84=1.00																	
U.S. Macro - 10 Year Baseline	Index		45158182	1.67	1.72	1.77	1.80	1.84	1.89	1.95	2.02	2.07	2.14	2.13	2.17	2.23	2.29
Annual Percent Change					3.37%	2.82%	1.60%	2.30%	2.67%	3.37%	3.23%	2.66%	3.21%	-0.47%	1.86%	2.76%	2.69%
3-Year Annual Percent Change							2.59%	2.24%	2.19%	2.78%	3.09%	3.15%	3.10%	1.85%	1.53%	1.38%	2.44%
5-Year Annual Percent Change									2.55%	2.55%	2.63%	2.88%	3.07%	2.43%	2.13%	2.04%	2.01%
10-Year Annual Percent Change																2.33%	2.44%
<b>Producer Price Index--Finished Goods</b>																	
(1982=1.0) Producer price index-finished goods, Source: BLS, Units: Index- 1982=1.0																	
U.S. Macro - 10 Year Baseline			45159751	1.33	1.38	1.41	1.39	1.43	1.49	1.56	1.60	1.67	1.76	1.71	1.79	1.89	2.29
Annual Percent Change					3.76%	1.94%	-1.30%	3.18%	3.98%	4.70%	2.56%	4.38%	5.39%	-2.84%	4.68%	5.59%	7.22%
3-Year Annual Percent Change							1.44%	1.26%	1.53%	3.95%	2.74%	3.67%	4.10%	2.24%	2.36%	2.46%	2.48%
5-Year Annual Percent Change									2.29%	2.46%	2.60%	3.76%	4.20%	2.75%	2.75%	2.98%	2.94%
10-Year Annual Percent Change																2.99%	3.55%

BLRA Filing JUL-01	Order 2010-12 JAN-09	Order 2011-345 JUL-10	Update JUL-12
2.66%	2.24%	0.43%	1.85%
2.81%	2.86%	1.97%	1.67%

## GDP Chained Price Index

One Year  
Five Year

**APPENDIX 5**

**V. C. Summer Nuclear Station Units 2 & 3**

**Quarterly Report to the South Carolina Office of Regulatory Staff  
Submitted by South Carolina Electric & Gas Company  
Pursuant to Public Service Commission Order No. 2009-104(A)**

**Quarter Ending December 31, 2012**

**Appendix 5** indicates those LARs that have been submitted by SCE&G to the NRC for review. Included is the title of each LAR, a brief description of the change(s) associated with the LAR, and the date the LAR was submitted to the NRC.



## Appendix 5

PUBLIC VERSION

### V.C. Summer Units 2 and 3 License Amendment Requests (LARs) Currently Under NRC Review

Topic	Description of Change	Submittal Date
LAR 12-01 - Additional Electrical Penetration Assemblies	Provide additional penetrations of the Containment Vessel to allow sufficient space for electrical and instrument cables	8/29/2012
LAR-12-02 – Tier 1 Table 3.3-1 Discrepancies - PAR Utilized	Conform the current ITAAC standards used to verify the shield building wall thickness to align with those approved in DCD Rev. 19	9/26/2012
LAR 13-01 - Basemat Shear Reinforcement Design Spacing Requirements - PAR Utilized	Clarify the provisions for maximum spacing of the shear reinforcement in the basemat below the auxiliary building to be consistent with requirements shown in existing FSAR figures.	1/15/2013
LAR 13-02 - Basemat Shear Reinforcement Design Details - PAR Utilized	Revises the requirements for development of basemat shear reinforcement in the licensing basis from ACI 349 Appendix B to ACI 318-11, Section 12.6. The use of ACI 318 criteria for headed reinforcement results in longer shear ties and thicker concrete in areas below the elevator pits and a sump in the nuclear island basemat.	1/18/2013
LAR 13-03 - Turbine Building Eccentric and Concentric Bracing	Revises the turbine building main area to use a mixed bracing system using eccentrically and concentrically braced frames as a means of preventing the turbine building from collapsing onto the Nuclear Island (NI) during a seismic event. The structural design code is also changed to a code that includes adequate provisions for the new bracing system	2/7/2013
LAR 13-04 - Reconciliation of Tier 1 Valve Differences	Reconciles valve related information contained in Tier 1 material to be consistent with corresponding Tier 2 material currently incorporated in the UFSAR.	2/7/2013
LAR 13-06 - Primary Sampling System Changes	Alters the design of the Primary Sampling System (PSS) by replacing a check valve with a solenoid-operated gate valve, modifying the PSS inside-containment header and adding a PSS containment penetration.	2/7/2013